

**OPERATIONAL GUIDANCE FOR THE
ESTABLISHMENT OF DATA STANDARDS AND
ACTION TEAMS BY THE ENVIRONMENTAL DATA
STANDARDS COUNCIL (EDSC)**

Revised July 2001

Environmental Data Standards Council

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Operational Guidance for the Establishment of Data Standards and Action Teams by the Environmental Data Standards Council (EDSC)

1.0 INTRODUCTION

The process depicted in this document is based, in part, on collaborative standards setting processes used by established standards setting organizations. The intent of this document is to present a defined, workable process that can be easily and consistently applied across organizations that have an interest in adopting, setting, and maintaining data standards for the purpose of information exchange. The process was developed with regard to burden, administration, public comment, and flexibility concerns of any organization. The document is a framework to be used by the EDSC and subject matter Action Teams in developing and adopting data standards.

1.1 Background

The EDSC, an ongoing partnership between EPA, the Environmental Council of the States (ECOS), and tribal organizations was chartered to promote the efficient sharing of environmental information among EPA, States, Tribes and other parties through the development of data standards and data exchange. The Council is committed to developing and adopting data standards for more efficient environmental information exchange between trading partners. The EDSC was formed by the resolution of the State/EPA Information Management Workgroup in November 1999. This resolution grew out of a proposal from the Data Standards Strategy Action Team to the State-EPA Information Management Workgroup. The EDSC has ten members consisting of four state, four EPA, and two Tribal representatives.

In March 2000, the EDSC convened a group of state, EPA, and Tribal representatives to serve on the Data Standards Priorities Work Group to develop a proposal for future standards, development priorities and to evaluate them using the following criteria: 1) contributes to immediate public health protection, 2) facilitates information use outside originating agency or across multiple platforms or allows aggregation or using information in secondary and multiple environments, 3) reduces cost or burden to regulators and to the regulated, or is a key anchor, cross-cutting foundation, or building block, 4) baselines environmental information, and 5) portrays the performance of programs.

2.0 THE PROCESS

This guidance document is organized according to the major steps in the data standards adoption/development process. A depiction of the steps in the process with relevant document sections is given in Exhibit 1.

2.1 Data Standard Request Submission

Any organization that is interested in submitting a request for the development of an environmental data standard is encouraged to contact the Council. Applications should be submitted using a standardized form, such as the New Project Proposal Form in Appendix A, derived from an American National Standards Institute (ANSI) form.

Applications may be sent to the EDSC Web site or the EDSC. The Council will acknowledge receipt and discuss the proposal as per the process outlined below.

2.2 Determine if a Standard is Needed

The Council will use specific criteria for determining whether a standard should be developed/adopted including those enumerated in Section 1.1.

The Council will allocate standards development resources to the areas where the need is most urgent and the payoff highest. This allocation process will consider the benefits to business needs, priority/urgency of these needs, and the degree to which standards could reduce cost or burden. The need for national or regional aggregation of information of a particular type, the ability to increase efficiency in information exchange via electronic transfers and exchange, and development of broadened opportunities for information sharing will be considered. The Council will also consider the degree of complexity, maturity, and resources needed.

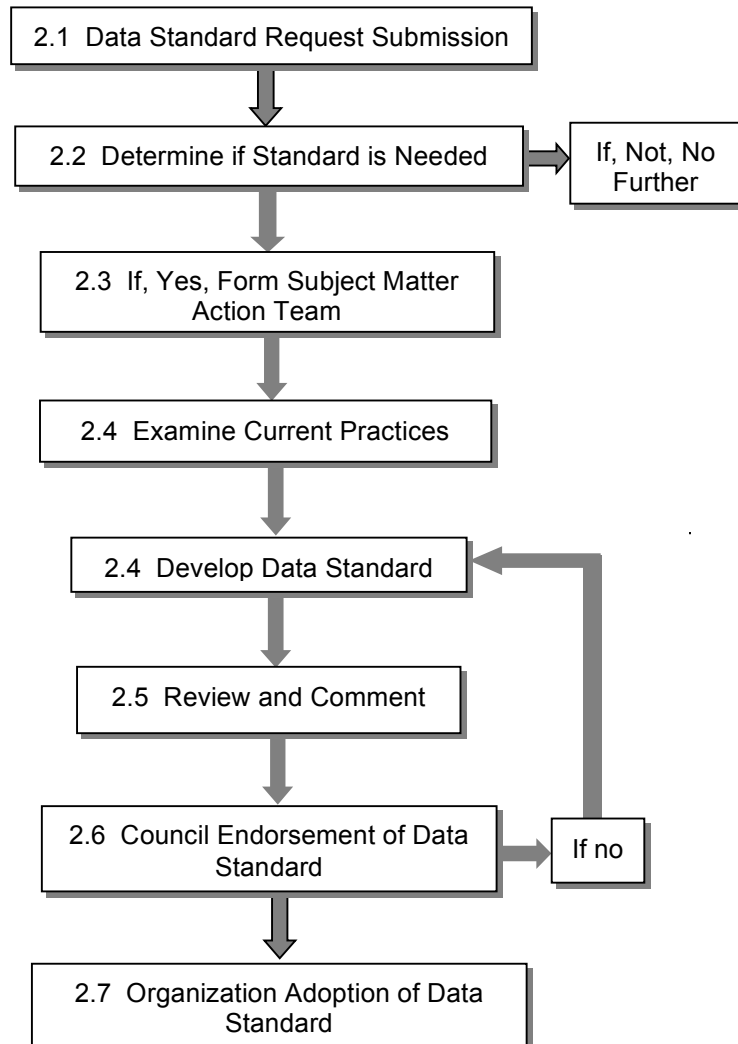


Exhibit 1. The Data Standards Adoption/Development Process

2.3 Form a Subject Matter Action Team

Once the Council has decided to proceed with a data standard, it will commission a subject matter Action Team. The team will scope the tasks to be done, develop a timeline (not to exceed nine months in duration), and proceed with the development of a draft data standard.

The proposed development process is based on establishing subject matter Action Teams to do the work of developing consensus data standards. Action Team membership will be formed from interested parties from states, tribes, federal and other partners. This approach provides a multifaceted view of information needs and will result in the development of data standards that can be used by a wide community. Action Teams will be directed by co-chairs, selected by the Council, who represent state, tribal and/or federal interests. Action Team membership is guided by the following:

2.3.1 Action Team Membership

Membership on the Action Team may be suggested by the Council, the co-chairs, or other interested parties. Guidelines for participating in the Action Team should be reviewed with Action Team members.

2.3.2 Responsibilities of Action Team Members

Agreement to participate in the development of a data standard brings responsibilities. The following outlines some of the responsibilities of Action Team members:

- Regular attendance at Action Team meetings.
- Review pre-meeting materials.
- Be prepared to discuss agenda topics.
- Prepare draft materials.
- Communicate with interested parties and home organizations during the development of the data standard and provide feedback to the Action Team about their positions or concerns.
- Strive for agreement and closure on standards, recognizing that consensus requires compromise.

2.4 Responsibilities of Action Team Co-chairs

Early in the Action Team process, the group should decide if they want to utilize the services of an outside facilitator to help organize meetings and materials and to facilitate discussions. The following tasks should be addressed by the Action Team co-chairs with or without facilitator assistance:

- Initiate development of the Charter.

- Distribute meeting reminders and materials for pre-meeting review.
- Guide group discussion and keep Action Team on task.
- Prepare and distribute meeting minutes.
- Prepare succinct monthly progress report to EDSC.
- Prepare draft standard document.
- Coordinate outreach to their respective communities/organizations.
- Develop communication, outreach, and strategy plan.
- Schedule meetings and conference calls.
- Vet the draft with a number of external peers.
- Provide for timely EDSC review of the draft standard

2.5 Responsibilities of Action Team

The Action Team will develop the data standard through a series of team meetings. Both in person and electronic meeting technologies will be used. Outlined below are examples of tasks for the Action Team meetings.

- Review data standards process and guidelines.
- Stress importance of reusing existing standards.
- Develop timeline, charter, term definitions, and draft data elements. Distribute to Action Team members.
- Discuss and finalize data element names and definitions and associated attributes.
- Identify implementation issues as the data elements are identified and defined.
- Disseminate information about standard development progress by using the EDSC Web site, WISER, and the Environmental Data Registry (EDR). (Contractor support in carrying out procedures will be available to assist the Action Team.)
- Plan approach and assignment of outreach strategy.
- Prepare committee report.

Once a need for a specific data standard has been defined, the next step in the development of a data standard is defining the scope of the standard. Several steps for defining the scope of the data standard follow:

1. Determine sources of expertise in the subject area of the data standard.
There may be groups that have already reviewed the topic area and they may be willing to share their information and experience.
2. Determine how systems store information related to the data standard. A review of information systems, initiatives, data collection instruments, information exchange formats, and integration activities can show how various organizations record and use information.
3. Review data exchange formats that have been developed between the partners to provide insight into a data standardization area.
4. Review existing international or national standards to determine if there are data standards related to the subject.

5. Look for ongoing efforts that may concern the topic areas where information may be shared or partnerships considered as a part of the development strategy. Select the best elements of existing standards. Where a broadly accepted standard exists, give preference to wholesale adoption of the standard. If an existing standard is used, it should not add complexity or reduce flexibility in the use of data.
6. If no existing standard is appropriate, develop a set of data elements that provide a sufficient standard.
7. As appropriate, consider business rules and data relationships, which may be specified in order to make the standard effective. Business rules may include applicability, mapping between equivalent representations of a data element concept, processing considerations and implementation issues

When the Action Team has developed and vetted a draft standard, the Council should conduct a broad-based public review process. (See Diagram of a general review and comment process in Appendix B.)

1. Interested parties will be notified about the activities of the Council and its Action Teams. Proposed data standards will be made available for review. Data standard development activity will be monitored from the acceptance of the project proposal through the endorsement of a new standard. The EDSC Web site, WISER, and the EDR will be used to disseminate Action Team information by providing a location or links for the recording of data element metadata, publishing Action Team documents and reports, and receiving comments from interested parties.
2. The standard review period will be 45 days.
3. Notification of the public review period for a proposed data standard will occur through the publication of the draft standard. The Council will institute standard advertising procedures such as the Federal Register, informational newsletters (such as Inside EPA or Bureau of National Affairs, ECOS, etc.) Tribal Operations Committee, National Tribal Environmental Council, Internet sites (such as the EDR and EDSC), or list servers.
4. Comments will be collected via the EDSC Web site or mail and provided to the Action Team chairs or designees. The action team shall review the comments and share the disposition of comments.
5. The Council will invoke or embrace consensus to the greatest extent possible. It is recommended that the Action Team seek resolution of comments to the proposed standard, to extent practicable. If resolution cannot be achieved, the Action Team will send their final determination/recommendations to the Council, noting any conflicts or unresolved issues.

6. Significant modifications to the proposed standard, as a result of public comments received, may require an additional public review period.
7. The Council will establish standard operating procedures to cover issues such as protocol for copies, distribution, communication, etc., during this process.

2.6 Council Endorsement of Data Standard

After the standard has received broad-based comment and review, and subsequent changes have been made, the Council will formally adopt the standards document and include it in a list of standards that are available to the public via the EDSC Web site or upon request. The Council may adopt all or part of the recommendations of the Action Team. The Council shall document the issues and members approving and maintain a list of signatories to the standard.

2.7 Organization Adoption of Data Standard

The adoption of a standard does not by itself create any new reporting requirements for agencies. However, given that State, Tribal and EPA systems are highly interdependent and that a large portion of data that EPA receives comes from state agencies, EPA implementation of a data standard may eventually affect state interfaces between EPA and the states. These issues of implementation and discussions of data flows, transaction sets, and electronic protocols are an important next step after the development of data standards. However, resolution of such issues is not within the initial scope of the Action Teams. The Action Teams may document issues and will leave any changes to the required programmatic information exchanged and/or formats be the subject of discussions between trading partners. These discussions will occur as part of individual agreements, such as Performance Partnership Agreements, Performance Partnership Grants, Trading Partner Agreements, and Data Exchange Templates.

Even when there is general agreement on a data standard, EPA and most States will not be in a position to implement it immediately. Implementation will likely take place over time, will be phased in by system and type of data, and will occur as system and interface redevelopment occurs and business rules change over time.

3.0 DATA STANDARD MAINTENANCE

Any data standard developed by the EDSC shall need to be reviewed periodically to maintain usefulness and applicability. The following sections outline the basic steps needed for ongoing maintenance.

3.1 Periodic Review

Data standards developed by the EDSC shall be reviewed annually after issuance or sooner if significant issues have been raised. A standing Review Committee, comprised of five members as follows: at least two from EPA-at least one being a member of the EDSC, two State Representatives-at least one being a member of the EDSC and one Tribal Representative shall be established. Representatives will be appointed for a membership term of one year. Members may be reappointed for one additional one-year term. The reviewers shall consider comments that have been received concerning the standard, changes in technology or business needs that may require modification of the data standard, and requests for changes or expansion of the data standard that have come from the user community at least quarterly. The Review Committee will prepare the annual report for EDSC review. A quorum for the Review Committee for standards review and other action shall be three members in attendance or convened electronically.

3.2 Collection of Comments, Feedback, and Change Requests

The EDSC Web site will be the principal vehicle for reporting and collecting comments, feedback, requests for changes or expansion of the data standards include changes to data elements, their definitions and limited permissible values lists other than those that serve as lists of examples only. The site will also be used for responding to requesters. Information contained on the web site will also be made available in non web-based formats.

The Web site manager will distribute the Data Standard Review Requests to the Review Committee on a regular basis and maintain records of the requests. The point of contact for the request should be notified via their request mechanism, e.g., automatically by the Web site or via mail if the report was received via mail. A running list of comments and their status will be maintained for all to see on the Web site.

3.3 Mechanism for Review and Changes

The Review Committee shall review update requests as they are received and determine the significance and priority at least quarterly. They shall consult with the original Action Team members as possible and/or subject matter experts as appropriate. Non-urgent requests will be retained to be considered as part of the annual report. The annual summary report will include: the name of the data standard to be reviewed; date of the request; a description of the requested change; a suggested action or solution for the request; a brief outline of any impact that might result from the requested change; contact

information for the requestor. The reviews may occur more frequently or if there are a large number of requests, or the impact is likely to be significant. Each review should include the extent the requested change will modify the intent or scope of the data standard, increase the cost burden on those who use the data standard, improve or degrade the implementation of the data standard, and what impact a change will have on current users of the data standard. This review will result in a statement of recommended actions. The suggestions of the Review Committee may or may not be consensus decisions.

The EDSC will determine if an Action Team needs to be convened to further review the change request. Proposed changes will be reported to the party who made the initial request and be posted on the EDSC Web site. Proposed changes that are determined to be significant will be made available for public review and comment before implementation. During the public review period, the EDSC should collect any additional comments and forward them to the Review Committee or Action Team for response. At the end of the public review period, the EDSC should assemble all comments and arrange for the Review Committee to complete their assessment of the comments. The final results of the review should be made available to the requestor and to the public with an indication of the effective dates for any changes adopted by the Review Committee.

3.4 Permissible Values Management

When a data standard includes a list of permissible values to be used with the data standard, ongoing maintenance of the value lists will be considered before the standard is adopted. If the values are from a list that is maintained by a recognized organization or Agency, such as the Bureau of the Census, a user will be directed to that organization or Agency to obtain the most current list of values. If the list is maintained by the Environmental Protection Agency or one of the members of the EDSC, maintenance should be managed via the Web site and the Review Committee to ensure redundancy does not result. If the steward does not maintain the permissible values or is non-responsive to requests, the EDSC will determine the appropriate next course. This might include negotiation with the steward, altering a data standard or assuming the responsibility for permissible value maintenance.

3.5 Records Management

Standards adopted by the EDSC will be managed to ensure that the versions are clearly identified, dated and available. Action Team membership and those involved in the maintenance decisions will be documented and available as part of the published standard history. Updates will be posted on the appropriate Web sites and documents.

APPENDIX A

New Project Proposal Form for Environmental Standard Development

Appendix A

New Project Proposal Form for Environmental Standard Development

Procedure: This form is to be used to submit a Data Standards Project Proposal (PP). Date and complete the form. Please number attachment pages.

Submission: Please submit to the EDSC Web site or the EDSC at edscteam@hotmail.com.

Date Submitted to Council _____

Council Decision

Approved

Disapproved

Date

Name of Council Member Sponsor _____

Project Working Title _____

Project Applicant Information

Primary

Alternate

Name

Name

Organization

Organization

Address

Address

Address

Address

City State Zip

City State Zip

Telephone

Telephone

Part I -- Purpose and Scope

Please describe the standard and indicate the range of functionality of the new standard. List any limitations in scope. Explain the transaction or application to be covered. Please include some examples of the standard's practical use, if possible.

Part II -- Background

Provide details that will be helpful in reviewing the proposal. Who are the expected users? How will the data standard be used? What functions does it serve or support? If the proposed standard overlaps with other established standards, please provide justification.

Part III -- Expected Content / General Description

(Optional) Submitter may attach a preliminary draft of the proposed standard or other supporting documentation.

APPENDIX B

Broad-Based Review and Comment Process

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Broad-Based Review and Comment Process

